



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,284	03/05/2002	Duncan Roger Harper	10660-070US (10279P1)	5606
7590 Frederick H. Rabin Fish & Richardson P.C. 225 Franklin Street Boston, MA 02110				
07/10/2008				
EXAMINER				
METZMAIER, DANIEL S				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
07/10/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/091,284

Applicant(s)

HARPER ET AL.

Examiner

Daniel S. Metzmaier

Art Unit

1796

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-20, 25-28 and 34-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-20, 25-28 and 34-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claims 17-20, 25-28 and 34-36 are pending.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claims 17-19, 25-28 and 34-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The metes and bounds of applicants' claims are indefinite since for materials that meet multiple elements of the broad claim language, it is unclear how much of said material to attribute to each of the claimed components. Clearly the component (b) mono- and polyglyceryl esters overlap the esters of component (d).

The esters of fatty acids and glycerol or polyglycerols are known nonionic surfactants, such as ATMER 184, produced by ICI PLC, which is polyglycerol stearic acid.

Terminal Disclaimer

3. The terminal disclaimer filed on 24 April 2008 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of patent issuing from application number 11/638,281 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 17-19, 25-28 and 34-36 are rejected under 35 U.S.C. 103(a) as obvious over Bassam et al. 5,849,264. The claims of Bassam et al. refer to an insecticidal composition in the form of water-in-oil emulsion comprising (a) 2-80% w/w propellant, (b) 0.5-8% w/w of one more emulsifiers selected from di- and tri-sorbitan esters, polyglycerol esters, including fatty alcohol ethoxylates (column 5, line 11), etc., (c) 1-20% w/w of a solvent selected from carboxylic acid (e.g. fatty acids (column 3, lines 65-67), (d) 0.001-5% w/w of a pyrethroid insecticide and (e) water bring the total composition to 100% w/w. Component (d) comprises fatty carboxylic acids reading on sorbitan esters also employed as component (b) above. The solvents of Bassam et al.

are selected from fatty acid and dialkyl phthalates. Hence, as long as applicants such fatty acids cannot clearly and unambiguously demonstrate that will not fulfill the conductivity and phthalates criteria of the claims the compositions are deemed to be anticipated by Bassam et al.

Applicants set forth (paragraph [0056] of the original specification) the "compositions of the present invention, when sprayed through conventional aerosol spray heads, form droplets which are imparted with a unipolar charge of at least about $\pm 1 \times 10^{-4}$ C/Kg". Since the compositions are anticipated and their use in conventional aerosol spray heads is disclosed, the methods as claimed are deemed anticipated.

To the extent the claims differ in the functional properties claimed, some variation of the compositions of the reference is disclosed and therefore some variation of the properties would have been expected. Applicants have not shown the properties to be critical to the invention.

7. Claims 17-19, 25-28 and 34-35 are rejected under 35 U.S.C. 103(a) as obvious over Stopper 4,536,323, esp. column 4, line 34 - column 5, line 19, noting also column 3, line 55 - column 4, line 19. Sodium lauryl sulfate in the typical composition in column 4 would fulfill the conductivity criteria of claim 17 herein.

Applicants set forth (paragraph [0056] of the original specification) the "compositions of the present invention, when sprayed through conventional aerosol spray heads, form droplets which are imparted with a unipolar charge of at least about $\pm 1 \times 10^{-4}$ C/Kg". Since the compositions are anticipated and their use in conventional aerosol spray heads is disclosed, the methods as claimed are deemed anticipated.

To the extent Stopper differs from the claims in the functional properties set forth in the claims, variation of the composition concentrations of the reference emulsifier mixture exemplified, the claims set forth concentrations of the emulsifier package of about 1.0 % w/w of nonionic surfactant and an anionic surfactant of 10 % w/w based on the nonionic surfactants. It is therefore concluded that some variation of the properties would have been expected. While still achieving the unipolar charged particles since the materials have said emulsifiers at or about said claimed concentrations.

It is noted that applicants originally disclose the unipolar effect occurs with compositions having as much as about 10 % w/w nonionic surfactant and up to about 80 % w/w of anionic polar surfactant (see original paragraph [0009]). The issue is whether the modifier "about" would include the concentrations of about 3 % w/w mixed emulsifier disclosed (claim 1) in Stopper. Applicants have not shown the more limited concentrations to be critical since the applicants originally disclose the same effect is achieved at higher and lower concentrations of the nonionic and anionic surfactants.

To the extent said concentrations do not at least overlap at their endpoints, said concentrations would have been obvious as a point of law. See also MPEP 2144.05(I) wherein it sets forth, "A *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. ***Titanium Metals Corp. of America v. Banner***, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985)."

This is further obvious in view of the level of skill in the art, which it is well known that oil-in-water emulsions have an aqueous external phase and may be further diluted

with polar solvents or aqueous phase, which further reduces the flammability of the compositions.

Furthermore, some variation of the surfactants in making microemulsions is to be expected in the art for the advantage of stability. It would have been obvious to vary the concentrations of the components of the Stopper reference for any of the variety of end-use utilities disclosed therein (column 7, lines 32 et seq) including at least cleaning, air fresheners, paint, coating sprays, deicer sprays, and defogger sprays.

Applicants have not shown the properties to be critical to the invention.

8. Claims 17-20, 25-28 and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fox et al., WO 99/21659, in view of Stopper 4,536,323, or Bassam et al. 5,849,264.

Fox et al (abstract; page 2, lines 22 et seq; examples and claims) describe an aerosol spray device and method of reducing the droplet size of a composition sprayed from such device. The preferred aerosol composition comprises an oil phase, an aqueous phase, a surfactant and a compressed propellant (page 8, lines 4-12). A charge is imparted to the liquid droplets solely by the interaction between the liquid within the aerosol spray device and the spray device itself as the liquid is sprayed therefrom (page 2, line 22 – page 3, line 22).

Fox et al differs in the particular emulsion compositions employed in the aerosol methods and the spray device of claims 21-24.

Bassam et al. refer to an insecticidal composition in the form of water-in-oil emulsion comprising (a) 2-80% w/w propellant, (b) 0.5-8% w/w of one more emulsifiers

selected from di- and tri-sorbitan esters, polyglycerol esters, etc., (c) 1-20% w/w of a solvent selected from carboxylic acid (e.g. fatty acids column 3, lines 65-67), (d) 0.001-5% w/w of a pyrethroid insecticide and (e) water bring the total composition to 100% w/w. Component (d) comprises carboxylic acids and diethyl orthophthalate as well.

Stopper, 4,536,323, esp. column 4, line 34 - column 5, line 19, noting also column 3, line 55 - column 4, line 19. Sodium lauryl sulfate in the typical composition in column 4 would fulfill the conductivity criteria of claim 17 herein.

Fox et al (page 7, line 32 et seq) discloses that changes in the product formulation can affect the charging levels. Fox et al further teaches that an emulsion of an immiscible hydrocarbon and water will carry a higher charge to mass ratio when sprayed from the aerosol device than either water or hydrocarbon alone.

These references are combinable because they teach aerosols and emulsions employed in said aerosols. It would have been obvious to one of ordinary skill in the art at the time of applicants' invention to employ the compositions of Bassam et al or Stopper in the aerosol devices of Fox et al (see page 4, lines 29 et seq) for the advantage of imparting a charge to said aerosol droplets, which has the effect of said droplets repelling each other, increased spread, and smaller droplet size of the aerosol.

Applicants set forth (paragraph [0056] of the original specification) the "compositions of the present invention, when sprayed through conventional aerosol spray heads, form droplets which are imparted with a unipolar charge of at least about $\pm 1 \times 10^{-4}$ C/Kg". Since the compositions are anticipated and their use in conventional aerosol spray heads is disclosed, the methods as claimed are deemed anticipated.

To the extent the claims differ in the functional properties claimed, some variation of the compositions of the reference is disclosed and therefore some variation of the properties would have been expected. Applicants have not shown the properties to be critical to the invention.

Response to Arguments

9. Applicant's arguments filed 24 April 2008 have been fully considered but they are not persuasive.

10. Applicants assert the amendment obviates the indefiniteness rejection. This has not been deemed persuasive because the components remain overlapping. see above rejection.

11. Applicants (page 6) assert that claims no longer read on diethyl orthophthalate as component (d). This has not been deemed persuasive since the claims still read on sorbitan fatty esters.

12. Applicants (page 7) assert there is no need to show criticality of the ratio of components (b) and (d) since the reference does not show said claimed ratio. Applicants are directed to the above comments and the rejection under 35 USC 112, second paragraph.

13. Applicants (pages 7 and 8) assert the issue regarding the instant methods are not mere properties but improved effectiveness of the product rather than the safety, which is the concern of Stopper. This has not been deemed persuasive since applicants have not shown an unexpected improvement asserted.

Furthermore, Stopper discloses alkyl sulfates as claimed component (d). Applicants' further arguments regarding concentrations has not been deemed persuasive. Merely modifying the process conditions such as concentration is not a patentable modification absent a showing of criticality for a result-effective variable, i.e., a variable which achieves a recognized result. Clearly, the concentration of surfactants of Stopper are result effective variables, albeit not the same result as applicants desire.

14. Applicants (pages 8 and 9) assert their claims are directed to the specific ratio of nonionic component (b) and component (d) and not to the broad concept of modifying the formulation can change the amount of unipolar charge. This has not been deemed persuasive and the asserted distinction by applicants is not apparent for the breadth of the instant claims.

The rejections are deemed proper and have been maintained.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on Monday to Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski, can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**/Daniel S. Metzmaier/
Primary Examiner, Art Unit 1796**

DSM